UNION CARBIDE

Nuclear Division News

Vol. 12, No. 19 September 24, 1981

Warren M. Anderson, Jack M. Case, Roger F. Hibbs, Charlie E. Robinson, Robert J. Hart and John E. Davidson

Warren M. Anderson, J. O. Dobson, Clayton D. Zerby, Roger F. Hibbs, Robert J. Hart and W. Danny Bucy

Employees praised for attitudes, practices for safe operations

The Nuclear Division's more than 19,000 employees were cited again recently as being the safest in the nation. "Your accident incidence rate is one-tenth of that of others in the Corporation," said Warren M. Anderson, President of Union Carbide Corporation, at the annual Safety Luncheon.

"You are setting standards for the Corporation and others who are watching us," he continued. "You deserve a lot of credit within the family for the example you set."

Roger F. Hibbs, President of the Nuclear Division, presided at the luncheon, attended by staff members from the Nuclear Division and representatives from bargaining units from the four Nuclear Division plants. "A very exemplary safety record," Hibbs described 1980's standards. "It was our second best since we began operations here." He also described the hazards faced in the four plants. "You name them and we have it. Yet interestingly enough the seven lost workday accidents we had in 1980 involved none of these hazards. They were common, everyday accidents. Four of them were falls, two involved forklifts and one employee suffered a head injury in a van as the driver went over a bump."

Robert J. Hart, Department of Energy's Oak Ridge Operations manager, praised the creativity and ingenuity involved in safety efforts in the Union Carbide-managed plants. "It involves total commitment...and ultimately safety resides in the worker," Hart said, "No matter what management or we at DOE do."

The plaques distributed include UCC Outstanding Safety Performance Award to ORGDP, the only silver award given in the entire Corporation, for more than 12,000,000 employee-hours worked without a lost workday incident; bronze awards to ORNL and Y-12 (two) for more than 8,000,000 employee-hours. The Paducah Plant earned UCC's Distinguished Safety Performance Award for a 4,000,000 employee-hour record.

The Department of Energy's Award of Excellence went to Y-12, ORNL and ORGDP for reducing the incidents of lost workday and restricted work case by at least 25 percent. DOE's Award of Achievement went to the Paducah Plant for maintaining the incidence of lost workday cases below 1.0 for three consecutive years.

(Please turn to page 8)

World's Fair tickets available at discount for entire season

The 1982 World's Fair in Knoxville will be the first such exposition to be held in the southeastern United States. The Fair is attracting a great deal of interest throughout the Nuclear Division. As a result, the Division has entered into an arrangement with Fair management which will result in a substantial savings for employees and retirees anxious to purchase a season pass.

The normal cost for a season pass is $100; however, under the arrangement we have with the Fair, employees may purchase a season pass for $55. This will entitle the purchaser to unlimited visits to the fairgrounds. (Children from age 4 through 11 will require tickets costing $30.)

Included in this issue of *Nuclear Division News* is an application for a World's Fair season pass certificate which can be exchanged for a pass. The pass will include the photograph of the user. The Fair emphasizes that season passes are *not transferrable*. But this doesn't mean that the pass certificate has to be used by the purchaser. It can be given as a gift to a relative or friend who can redeem it for the season pass.

The reduced rate for season passes has a cutoff date of December 31, 1981. After that date, the price of the season pass will be $100 for all persons.

As Fair officials explain, the World's Fair will be a once-in-a-lifetime international experience. However, it is not an event that can be fully appreciated in only a single visit. During the 184 days of the Fair, events will change daily. There will always be something new to see and to do. Fair officials emphasize that a season pass is unquestionably the best way to participate in all activities.

APPLICATION FOR WORLD'S FAIR SEASON PASS CERTIFICATE

_____

(Full Name — Please Print)

_____ _____

(No. of Children Certificates Requested @ $30 each)

(No. of Adult Certificates Requested @ $55 each)

HOME MAILING ADDRESS: (Please Print)

_____

(Street) (City) (State) (Zip)

Enclosed is my check for $ _____

Checks must be made out to Union Carbide Corporation Nuclear Division and mailed to:

THE 1982 WORLD'S FAIR
MAY-OCTOBER, 1982
KNOXVILLE, TENNESSEE

Union Carbide Nuclear Division
Public Relations Department
Building 9704-2, MS-21
P.O. Box Y
Oak Ridge, TN 37830

REMEMBER: SEASON PASSES ARE NOT TRANSFERRABLE

81-3796

ANDERSON VISITS GAS CENTRIFUGE — During his recent visit to Oak Ridge, Corporate President Warren Anderson toured centrifuge facilities at ORGDP. Anderson, second from right, is shown here with Roger F. Hibbs, Nuclear Division President; William Wilcox, technical director; Ernest Evans, Separation Systems division director; and Ken Sommerfeld, ORGDP manager.

Anniversaries

ORNL

35 YEARS

George R. Patterson Jr., Industrial Safety and Applied Health Physics; and Roy C. Lovelace, Chemical Technology.

30 YEARS

Raymond M. Burnett, Instrumentation and Controls; James M. Farmer, Instrumentation and Controls; Eugene E. Ketchen, Health; Wilbur D. Shults II, Analytical Chemistry; William T. Martin Jr., Industrial Safety and Applied Health Physics; James G. McNabb, Finance and Materials; James W. Calvert, Plant and Equipment; and Teddie E. Welch, Operations.

25 YEARS

Melba J. Bolinger, Warren G. Sisson, Chester S. Morgan Jr., James W. Johnson, Robert P. Keener, Franklin E. Hatfield, Eugene C. Keith, Hugh H. Shelton, Grimes G. Slaughter and Orison M. Thomas.

20 YEARS

Georgia E. Smith, Francis B. Kam, Carl G. Smith and Coy L. Bunch.

PADUCAH

30 YEARS

Everett L. Craycraft, Power, Utilities and Chemicals; James E. Prince, Plant Protection; Allen W. Russell, Safety; Edward P. Bloomfield, Power, Utilities and Chemicals; Jack G. Scott, Fire Department; Lewis A. Allmon Jr., Power, Utilities and Chemicals; Curtis E. Yarbrough, Power, Utilities and Chemicals; Howard L. Armonstrong; Maintenance; Eugene Miller, Quality Evaluation; and Alenda H. Wolfe, Finance and Materials.

Y-12

30 YEARS

Richard M. French, Dimensional Inspection; Frank E. Shipley Jr., General Can Fabrication Shop; Elmer R. McConkey, Process Maintenance; Frederick E. Baker, Computer Sciences; Joyce R. Gillihan, Plant Records; Alice L. Hensley, Materials Forming; Bruce A. Murr, Quality Standards; James E. Warren, Fire Department; Walter Wolfe Jr., Electrical and Electronics; Isaac F. Cox Jr., Electrical and Electronics; Windell L. Nelson, Buildings, Grounds and Maintenance Shops; and Albert R. Merrell, Process Maintenance.

25 YEARS

Roy Wilson.

20 YEARS

Alvin Reynolds and Ronald M. Keyser.

Wallace promoted

Wallace

Karrel L. Wallace has been promoted to a power operations supervisor in the Paducah Plant's Power, Utilities and Chemicals Division. A 29-year employee, he is a native of Mounds, Ill. Wallace has been a power and utilities operator, engineering assistant and a supervisory trainee. In his new position, he will supervise power scheduling, budgeting, billing verification and power and utilities usage records.

Wallace attended Lockyears Business College and is a U.S. Navy veteran.

He and his wife, Wilma, live on Maxon Road, Paducah. They have two children.

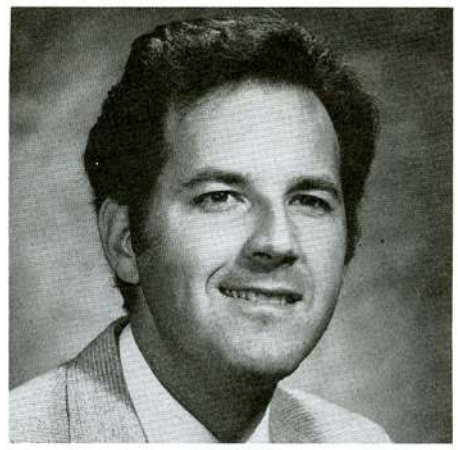
Kosinski named superintendent for newly formed department

F. E. (Gus) Kosinski has been appointed superintendent of the newly formed Nuclear Materials Processing and Waste Management Technology Department in the Oak Ridge Y-12 Plant's Development Division.

In his new position, Kosinski will direct a new four-year development program to support improvements to Y-12's enriched uranium and uranium recovery facilities. He will also direct activities associated with the processing of special nuclear materials, and the development of new technologies for processing, handling, storing and disposing of radioactive wastes.

A native of New Jersey, Kosinski received his BS degree from Rutgers University and his MS degree from the University of Mississippi, where he worked under a National Aeronautics and Space Administration fellowship. Both degrees are in chemical engineering.

Kosinski joined the Nuclear Division in 1968, working initially at ORGDP. He has worked at the Paducah Plant for the past five years, and most recently was head of the Process and Materials Development Department, Technical Services Division.

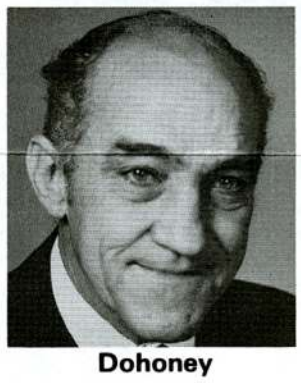


Kosinski

Kosinski has served as chairman of the Environmental Technical Program Management Team for the nation's three gaseous diffusion plants. He is a Union Carbide college relations representative, and is chairman of the Western Kentucky Section of the American Institute of Chemical Engineers.

He, his wife, Mary, and their two children will live in the Hendrix Creek area of Oak Ridge.

Named ORGDP test support director



Dohoney

David A. Dohoney, a science technologist in the Separation Systems Division at ORGDP, has been promoted to test support director in the Advanced Machine Development Laboratory.

A native of Columbia, Ky., Dohoney graduated from the Milwaukee School of Engineering. He served in the U.S. Army, and was employed by General Electric Company at Hanford, Wash., before joining the Nuclear Division in 1965. Dohoney worked as an instrument technician at ORNL from 1965 to 1972.

He and his wife, Kese, live on Regency Road, Knoxville, with their two daughters.

7126-81

UNION CARBIDE

Published every other week for employees such as:

Nuclear Division News

UNION CARBIDE CORPORATION
NUCLEAR DIVISION
Post Office Box Y
Oak Ridge, Tenn. 37830

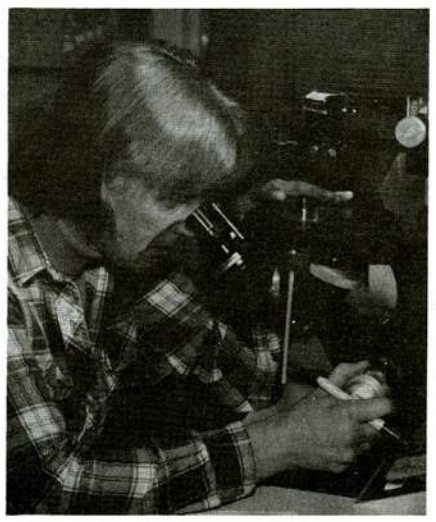
EDITOR (Y-12)
James A. Young, 574-1643

ASSOCIATE EDITOR (ORNL)
Cindy Ross Lundy, 574-4163

ORGDP
Ruby A. Miller, 574-8092

PADUCAH
Darlene M. Mazzone, Bell 208

INTERNATIONAL ASSOCIATION OF BUSINESS COMMUNICATORS



Margaret Terzaghi, a research associate in the ORNL Biology Division.

Four Division developments glean IR-100 awards

8874-80

The Nuclear Division of Union Carbide has received "I-R 100" awards for four of the year's most significant advances in technology.

The awards were announced by the magazine *Industrial Research and Development* in ceremonies at the Museum of Science and Industry in Chicago.

The ORNL developments selected in the annual competition are:

- A passive polynuclear aromatic vapor monitor for use at synthetic-fuel-from-coal facilities;
- A high-gradient magnetic coal separator that efficiently removes sulfur and ash from coal in a dry process;
- A highly sensitive spectrometer (PERALS) for identification of alpha-emitting radionuclides; and
- An extreme ultraviolet monochromator for detecting ultraviolet and extreme ultraviolet regions of the electromagnetic spectrum.

Passive Polynuclear Vapor Monitor

The passive polynuclear aromatic (PNA) vapor monitor has been developed to detect personnel and area exposures to potentially hazardous PNA compounds such as quinoline, pyrene and fluoranthene associated with conversion of coal into liquid or gaseous fuels. It was developed by Tuan Vo-Dinh, a research physical chemist with the monitoring technology and instrumentation staff of ORNL's Health and Safety Research Division.

Worn as a personal exposure dosimeter, the PNA monitor holds a disk of filter paper treated with a heavy-atom chemical agent such as thallium acetate, lead acetate, cesium iodide or sodium bromide. Following the adsorption of vapors onto the filter papers, the heavy-atom chemical agent induces phosphorescence of the PNA compounds for spectroscopic analysis. The PNA molecules are immediately identified without time-consuming extraction or desorption processes. By using different heavy-atom chemical agents, a variety of PNA vapors can be detected.

The PNA vapor monitor is significantly more sensitive and less expensive than conventional vapor monitors using active pumping devices. The risk of error is greatly reduced because of its simplicity and since no "wet" chemical analysis is required. Further, cost-effective exposure analyses can be performed quickly by relatively untrained personnel on a routine basis.

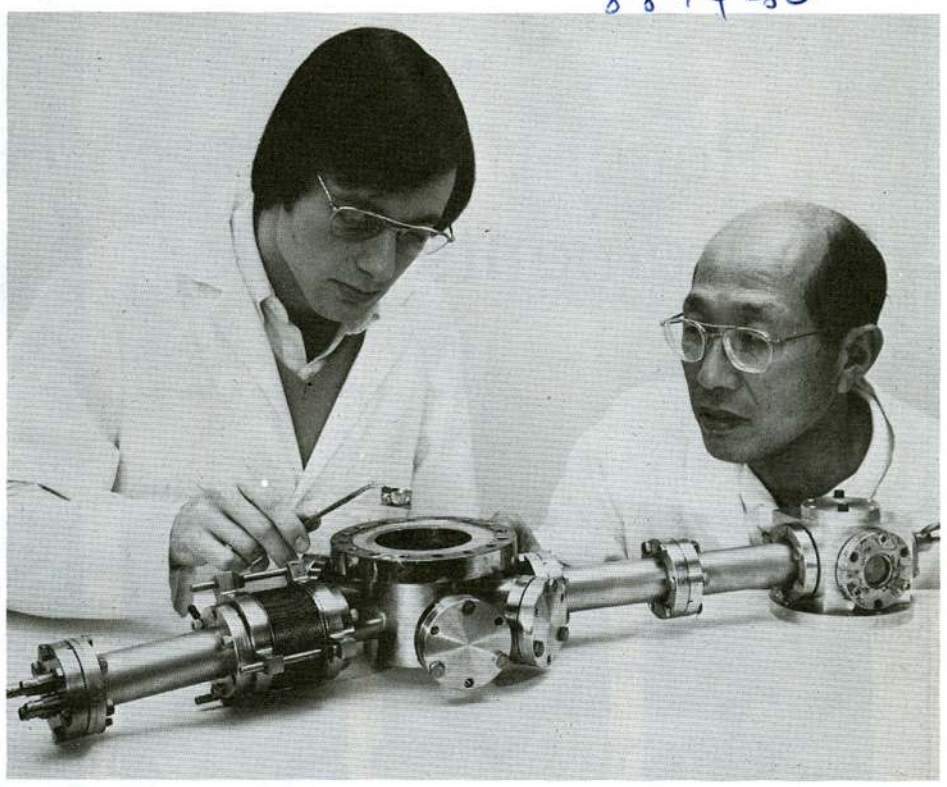
This improvement in monitoring capability may also help to better determine the effects of human exposure to low-level concentrations of PNA vapors. Besides monitoring and protection of synthetic fuels personnel, the device also has applications in the chemical, pharmaceutical and petroleum industries.

High Gradient Magnetic Separation

By removing sulfur and ash from coal before it is burned, air pollution from coal-fired steam plants can be significantly reduced. The High Gradient Magnetic Separation process is an efficient, dry method of removing these impurities from coal. The process was developed in the Engineering Technology Division, as part of ORNL's Fossil Energy Program, by Eugene C. Hise, supervisor of coal preparation and waste disposal development, and Allen S. Holman, development engineer. It was tested last year on a small commercial production machine operated by Sala Magnetics, Inc., Cambridge, Mass.

Conventional coal-cleaning processes involve washing the coal with water to remove impurities. Although relatively high removal rates can be attained by washing, its disadvantages include the high water consumption and the need to dry the coal before it is burned. In the ORNL process, finely ground coal is passed through a canister containing a magnetized wire mesh, which attracts and traps sulfur and ash impurities. The carbon content, which represents the major heating value of coal, is slightly repelled by the same magnetic force, so the clean coal falls through the mesh.

Because the High Gradient Magnetic Separation process produces a dry product ready for immediate use, energy and money are saved, less coal is lost in processing, and boiler efficiency is maintained. More than 60 percent of the sulfur and ash impurities in coal can be removed with this process, thereby helping coal-fired steam plants to meet stringent sulfur dioxide and fly ash emission regulations.



Paul J. Caldwell and Edward T. Arakawa Inspect Extreme Ultraviolet Monochromator

Earlier this year, the development was named one of the 10 Outstanding Engineering Achievements of 1980 by the National Society of Professional Engineers.

Extreme Ultraviolet Monochromator

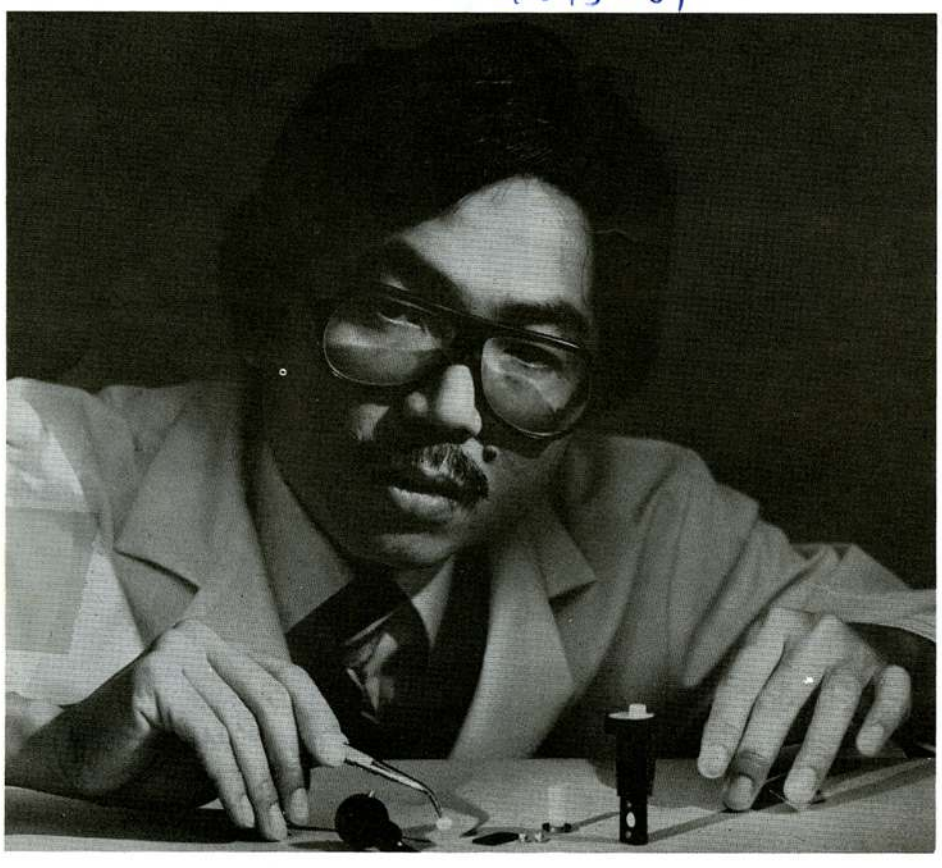
The extreme ultraviolet monochromator is a spectrograph that detects a narrow band of electromagnetic spectra in the vacuum ultraviolet and extreme ultraviolet region. Among its applications are detection of impurities in fusion plasmas and the study of solar and cosmic radiation in orbiting space telescopes.

The new device was developed by Paul J. Caldwell, graduate assistant to the physics of solids and macromolecules group in the Health and Safety Research Division, and Edward T. Arakawa, senior research staff member.

In the extreme ultraviolet monochromator, a beam of electromagnetic

(Please turn to page 8)

4875-81

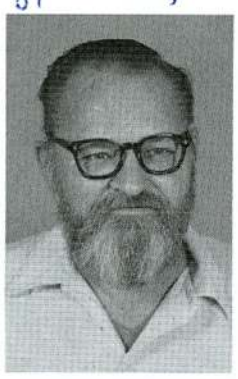


Tuan Vo-Dinh shows Passive Polynuclear Aromatic Vapor Monitor

202484

Allen S. Holman and Eugene C. Hise Developers of High Gradient Magnetic Separation process

Recent Retirements



Cornelius H. Hilemon
Engineering
ORGDP
33 years service

Arthur D. Warden
Industrial Safety and Applied Health Physics
ORGDP
35 years service

Ann R. Farris
Employee Relations
ORGDP
28 years service

Walter L. Ford
Computer Sciences
ORGDP
36 years service

Nathaniel H. Land
Biology
ORNL
34 years service

Warren W. Harris
Metals and Ceramics
ORNL
39 years service

Robert Stepp
Engineering
ORGDP
25 years service

Denton C. Gary
Industrial Safety and Applied Health Physics
ORNL
35 years service

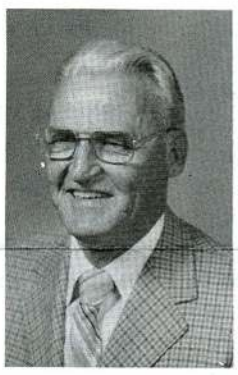
John H. Mitchell
Plant and Equipment
ORNL
31 years service

Sam H. Beasley
Engineering
ORNL
34 years service

Dallard H. Loveday
Plant and Equipment
ORNL
30 years service

Doyle M. Davis
Industrial Safety and Applied Health Physics
ORNL
35 years service

James E. McClane
Engineering
ORGDP
27 years service



William H. Suffridge
Engineering
ORGDP
35 years service

Kluck U. Berkau
Purchasing
ORGDP
26 years service

Dorothy V. Gordon
General Accounting
ORGDP
36 years service

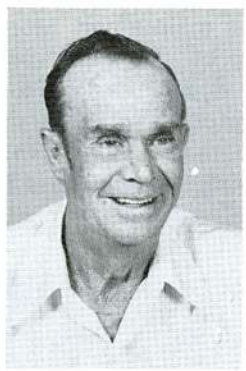
Burriss N. Strunk
Purchasing
ORGDP
35 years service

Clara C. Harmon
Computer Sciences
ORGDP
15 years service

Marjorie M. Stephens
Computer Sciences
ORGDP
25 years service

Robert C. Osborne
Barrier Manufacturing
ORGDP
29 years service

Joe E. Leinart Jr.
Operations
ORGDP
36 years service



Henry F. King
Barrier Manufacturing
ORGDP
29 years service

Allan H. Jordan
Barrier Manufacturing
ORGDP
36 years service

Hillery Jones
Security and Plant Protection
ORGDP
37 years service

Louis R. Jones
Maintenance
ORGDP
37 years service

Edward C. Johnson
Separation Systems
ORGDP
36 years service

Alvin Hilton
Operations
ORGDP
37 years service

Millard J. Gibson
Maintenance
ORGDP
36 years service

Albert J. Edmonds
Maintenance
ORGDP
35 years service

Vestal M. Austin
Operations
ORGDP
37 years service

Herbert Cleveland
Maintenance
ORGDP
36 years service

Graham E. Johnson
Technical Services
ORGDP
33 years service

Ezra F. Davis
Maintenance
ORGDP
36 years service

Medicine Chest

Vasectomy reversal and heart problems

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 21, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

QUESTION: I read your article on vasectomies and heart problems. I had a vasectomy 6 years ago at age 44. My question is, if I have the tubes rejoined, would any possible future artery damage be prevented?

ANSWER: I received this question earlier this year but waited to answer it until new information became available. Unfortunately, my previous article in *Nuclear Division News* and other articles in the popular press may have created unjustified anxiety.

For those who may not be familiar with the vasectomy operation, it is designed to sterilize the male and is often performed under local anesthesia. The vas deferens is the collecting tube in each side of the scrotum (sac) that conducts the sperm formed in the testes. During a vasectomy, the tubes are located and dissected free, and a portion is cut out of each tube. Then the upper and lower ends of each tube are sewn shut and the small incisions in the skin are closed. Once the sperm that had already passed through the section of the tubes that were removed are ejaculated, the man should be sterile for life.

Sperm antibodies

Several studies have shown that a vasectomy is sometimes followed by the appearance of sperm antibodies in the blood. Normally, sperm are hidden from the immune system by what is called the blood-testis barrier. A vasectomy somehow breaks that barrier. Any sperm that are formed after the operation are trapped and have to be reabsorbed. Proteins from these reabsorbed sperm come in contact with the immune system, and antibodies are formed against them. It is this autoimmune (meaning against one's self) reaction that has caused some concern among medical biologists.

Results of an experiment conducted during the previous decade by Nancy Alexander of the Oregon Regional Primate Research Center in Beaverton, Oregon, appeared to indicate that monkeys who had undergone vasectomies and were fed high-fat diets developed more severe cases of atherosclerosis (hardening) in their arteries. A more recent and much larger primate experiment showed that not all animals were equally vulnerable to the effects of the 50-percent-butter diet. For unknown reasons, a few monkeys developed fairly severe atherosclerotic plaques (raised patches of fat and fiber deposited in the lining of the arteries).

The addition of vasectomies as a variable only slightly increased the severity of the cases of atherosclerosis. Because the monkeys had been imported from Malaysia, there were no controls on their genetic backgrounds. Their vulnerability to the high-fat diet was probably genetic in origin. Further experiments are being conducted, but there currently is too little evidence of danger for one to become alarmed.

Results of studies

Several studies have been performed on humans to try to determine if men who have undergone vasectomies have less favorable future health experiences (especially with heart attacks) than men who have not had the surgery.

For example, a Boston study of 4,830 men who had undergone vasectomies and 24,420 non-vasectomized members of a control group showed no differences in heart attack rates. In June of this year, another report appeared in *The Journal of the American Medical Association*. Dr. Alexander Walker and associates at the Boston University Medical Center examined hospitalization rates of 6,092 men who had been vasectomized from 1 to 9 years previously. A total of 20,491 person-years of observation were available and were compared with 240,755 person-years in non-vasectomized men. The only difference occurred in the rates of hospitalization for genito-urinary problems. These problems usually occurred soon after the vasectomies and were related to surgical complications or conditions found during the original evaluations and surgically corrected later.

Reversal effects

In answer to your question, having your tubes rejoined would be expensive and probably would have little or no effect on the level of sperm antibodies in your blood. Determining whether or not you have any sperm antibodies would require testing by a research team and probably would not be worth the effort.

Vasectomy appears to be the safest way for couples to prevent future pregnancies, because it is much safer than the woman's continued use of oral contraceptives.

ORNL 5705-81

AT KICKOFF MEETING — Henry R. Woods (center) and D. Jim Poston Jr., both of ORGDP, examine an exhibit at the United Way kickoff meeting as Beth Kimball of Girls Club of Knoxville looks on.

United Way campaign begins

"Through United Way, we can all gain a sense of richness by helping people." With these works, the keynote speaker J. Robert Stogner, president of the United Way of Greater Knoxville, began the Nuclear Division's 1981 United Way campaign during the kickoff meeting at the Oak Ridge Civic Center.

Stogner said, "We all have our work cut out for us this year in terms of what our needs are. With a reduction in federal spending, a lot of worthwhile agencies are in trouble and will need greater United Way contributions to keep on working."

Stogner also described the unique nature of the United Way program. "United Way supports a large group of agencies that would not exist without our support."

Clyde C. Hopkins, executive director of ORNL, addressed the group of more than 600 solicitors and fund workers.

Others present on the speaker's platform were James A. Barker, Nuclear Division campaign chairman; John W. Arendt, assistant general chairman; and facility chairmen Harry Bailey, Y-12; Carl H. "Pete" Peterson, ORGDP; and Janice M. Blanton, ORNL.

Bargaining-unit employees were represented by John A. Hall, representative of the Oil, Chemical and Atomic Workers International Union; Robert G. Keil, president of the Atomic Trades and Labor Council; Norman L. Beeler, vice president of ATLC; and Joyce S. Grubb of Y-12 and Ronald L. Taylor of ORNL, representatives of International Guards Union of America. Employees from these groups have been responsive supporters of the United Way campaign, and a substantial part of the goal each year is met through their efforts.

The kickoff meeting gave Division employees the opportunity to observe some of the many ways that the United Way contributes to their communities. Representatives of many agencies from the six-county (Anderson, Blount, Knox, Loudon, Morgan and Roane) area attended the meeting, presenting brochures, charts, photo displays and demonstrations.

ORNL 5703-81

J. Robert Stogner

Safety Scoreboard

Time worked without a lost-time accident through September 17:

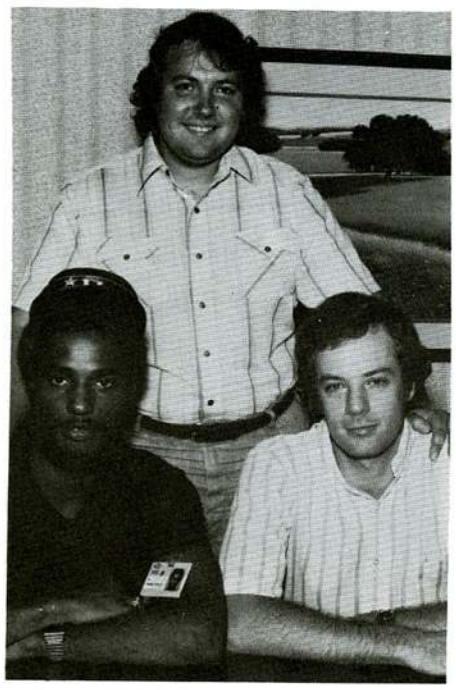
Y-12 Plant	360 Days	12,800,000 Employee-Hours
ORGDP	96 Days	2,695,934 Employee-Hours
ORNL	495 Days	11,580,244 Employee-Hours
Paducah	415 Days	3,798,000 Employee-Hours

N81-293

RED EYE GRAVY GANG — The Red Eye Gravy team took the West Division crown in the Softball League, scoring 12 wins to no losses. In the front, from left, are Mike Nelson, Sue Russell, Linda Gibson, Dave Baumgardner, Amy Carson, Tom McLaughlin, Betty Thompson and Mike Carroll. In the back row are Jeff Prosise, Bob Armour, Dave Dorsey, Lionel Farr, Ron Cusick, Dave Vandergriff and Mike Hechler.

N81-292

HOT HOFFERS TAKE SOUTH — The Hoffers won the South Division in the Softball League, with 10 wins and 1 loss. In the front row, from left, are Sam Clinton, Joe Walker, George Oswald, Ray Barker and John Begovich. In the back row are Howard McKame, Rick Genung, Elbert Carlton, Don McTaggart and Ron Bruson.



CHESS CHAMPS — The Chess League winners at Paducah beam winning smiles as the season ends. Seated at right is the first-place winner, Dennis Jessup, beside Earnest Hamilton, left, who took third position. Standing is Jim Wood, second-place winner. Delmer Breidert, who tied for third place, was not in the photograph.

Fishing rodeo...

The Paducah fishing contest will run from September 1 through October 31 and will include black bass and bream. Entries should be submitted to the Recreation Office in C-100.

Volleyball...

Men and women interested in the Winter Volleyball League in Oak Ridge should contact the Recreation Department, telephone 4-1597, for entry forms.

The deadline for entering is October 7, and play in two leagues, the Nuclear and Carbon, will begin shortly after that. Team entries or individual applications will be accepted.

UCC Monday Mixed...

The Union Carbide Monday Mixed league was won by the J. W.'s. Captained by John Jordan, the J. W.'s also took high game and series for team. They also took high team handicap game and series on the last night of bowling.

Save Energy / Share the Ride

ORNL

RIDERS NEEDED from West Knoxville to ORNL, 8-4:30 shift. Mike Caldwell, plant phone 4-8855; home phone 691-4194.

RIDE NEEDED from Oak Ridge Highway between Karns and Solway to East Portal, 8:15-4:45. Peterson, plant phone 4-4483; home phone 690-3989.

JOIN OR FORM CARPOOL from Fountain City, Inskip area to ORNL, 8-4:30 shift. Bob Hopper 4-4134.

CARPOOL MEMBERS NEEDED from Village Green area, 8-4:30 shift. Betty McHargue, plant phone 4-4488; home phone 966-9563.

VAN POOL RIDERS from West Knoxville to ORNL, 8-4:30 shift. Mike Caldwell, plant phone 4-4855, home phone Knoxville 691-4194.

ORGDP and Y-12

BUS RIDERS wanted to K-25 and Y-12 from Roane County; work phone 6-0204; home phone 882-5618.

ORGDP

TWO CARPOOL MEMBERS wanted from Garden Apts., Oak Ridge, to Portal 3; 7:45-4:15 shift; John Privette, work phone 6-2675.

CAR POOL MEMBER WANTED from Brendon Park Apartments, Knoxville, to Portal 3, 7:45-4:15. Brad Richardson, plant phone 4-7565; home phone 690-6657.

CAR POOL MEMBER WANTED from Fountain City area to Portals 4, 7 or 9, 8-4:30. Gerald Bellamy, plant phone 4-9149; home phone 687-9275.

CAR POOL MEMBER from I-40, Walker Springs Road exit, Knoxville to Portal 2, or K-1007, 7:45-4:15 shift. Steve, plant phone 6-1894, home phone Knoxville 690-6856.

Y-12

CARPOOL MEMBER from Karns area, Oak Ridge Highway, to North Portal, 8-4:30. Bob Cooper, plant phone 4-3429; home phone Knoxville 691-8411.

VAN POOL RIDERS from Fountain City, Norwood, Powell Shopping Center, to East, Biology or North Portal, 8-4:30 shift. Bill Moyers, plant phone 4-3195; home phone Knoxville 689-4087.

RIDE or JOIN CAR POOL from Kingston, Bonnyview Avenue, to East Portal, 8-4:30 shift. Howard L. Horne, plant phone 6-0517; home phone 376-7960.

Paducah softball...

The second Paducah intramural softball program concluded last month with a five-way tie for first place.

Play standings follow:

Team	Won	Lost
Foul Balls (Technical Services)	7	3
Miller Killers (Construction Management)	7	3
Power Steamers (Power Utilities)	7	3
Riff Raff (C-331 Electrical Maint.)	7	3
Sweet Ole Bills' Gang (Upper Cascades)	7	3
Ball Busters (Maintenance Engineering)	6	4
In-the-Hole Bunch (Security)	5	5
Longknockers (Lower Cascades)	5	5
Benchwarmers (Employee Relations)	3	7
L.A.G.N.A.F. (Process Maintenance)	3	7
Buschleaguers (Production Engineers)	2	8
Hustlers (Quality Evaluation)	0	10

Photo contest...

The Paducah Plant's 1981 Photo Awards Contest is set for October with two divisions, large format (5 x 7 to 11 x 14) and snapshot format (5 x 5 or smaller). Categories will be judged by a group of professionals and amateurs interested in photography. The entry deadline is October 19, and entries will be judged and placed on exhibits two weeks later.

61 45 2

SWEET OLE BILL'S GANG — Although five teams tied for first place in Paducah's softball competition, the SOB's claim first place for having defeated each of the other teams during the season. They took second place in the softball tournament held recently. From left in front are John Coil, Bill Kelly, Bill Switzer, coach; Roger Dew, Darrell Evans, Tom Peeler and Steve Courtney. Standing are Don Loe, Elvin Kuehn, Doug Thompson, Brenda Howard, David Sanderson, Bobby Litchenberg, Jan Dew and Rod Pryer.

Question Box

Planned Parenthood pay for abortions?

QUESTION: I hesitate to support the United Way because I have heard that Planned Parenthood Association finances abortions. Is this true?

ANSWER: Planned Parenthood gives free pregnancy tests and counciling. They NEVER encourage abortions, nor do they finance them. In no way do they provide transportation or medical expense assistance toward an abortion. Officials at Planned Parenthood Association state they explain options open to a pregnant client, i.e. adoption, keeping the child, etc., but they do not advise abortions.

QUESTION: It has been discovered that there are "peepholes" in the ladies' restroom of Building 9735. The attic is directly above. This was brought to the attention of management in early June, but to date nothing has been done. Since that time there has been talk of other ladies' rooms at Y-12 with the same situation. Can these not be inspected and covered?

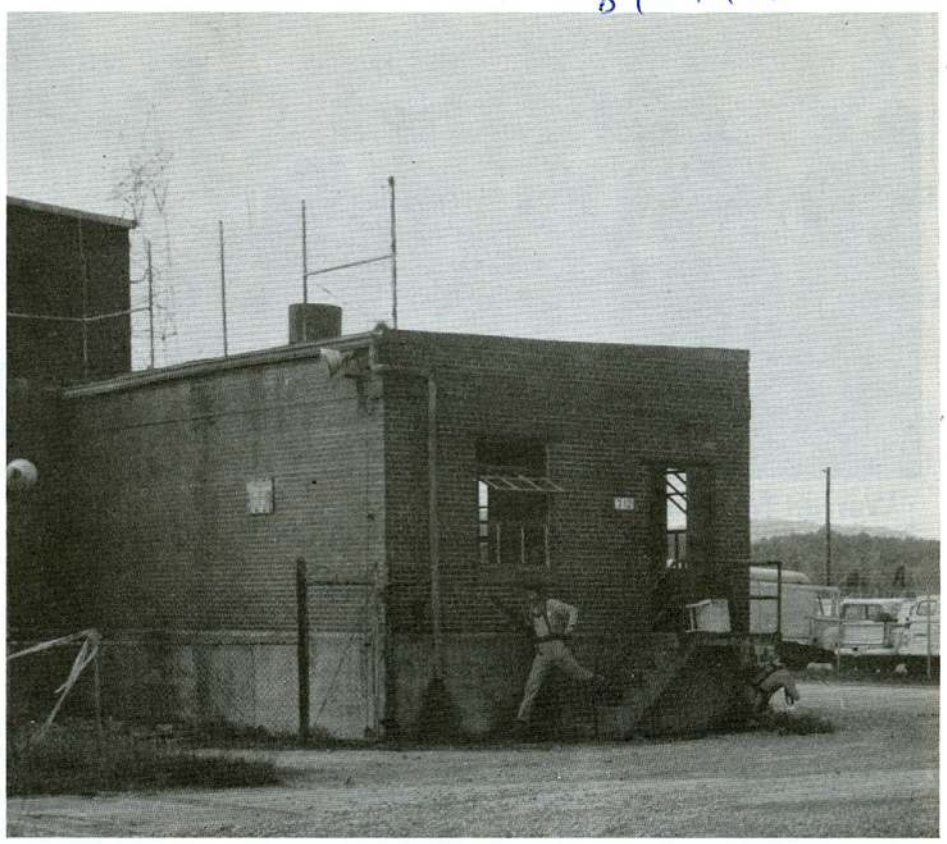
ANSWER: Since receipt of your question, all Y-12 ladies' restrooms have been inspected and there is no evidence of "peepholes." The ceiling of the ladies' restroom referred to in your question had been damaged during performance of work overhead, and the temporary repairs that were made immediately left some question concerning possible visibility from above even though the space was fully covered. Permanent repairs were made following the strike.

World's Fair tickets

QUESTION: I would like to know if the Nuclear Division will participate in the Corporation Season Pass Program for the World's Fair that was publicized in the papers recently?

ANSWER: See the special article on this matter in this issue of the *Nuclear Division News*.

81-1975



INTRUDER ON THE MOVE — An intruder, armed with a laser-equipped M-16 rifle, makes his exit from a building while his partner shoots around the corner at an approaching patrol car.

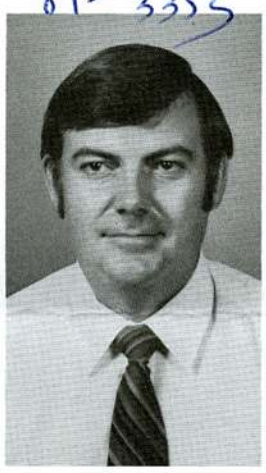
Foley named health physicist at ORGDP

81-3353

Ray D. Foley, senior health physics technician in the Technical Services Division at ORGDP, has been promoted to applied health physicist. A native of Barbourville, Ky., he received a BS degree in biology and chemistry from Cumberland College and master's degree in occupational and environmental health and safety from the University of Tennessee.

Before joining the Nuclear Division in 1976, he worked as a chemist for a pharmaceutical company. Foley is a member of the Health Physics Society.

He and his wife, Jewell, live in Lenoir City with their two children.



Foley

81-3694

TPSC VISITS TOLL ENRICHMENT — Tours and briefings on the packaging, handling and shipping of radioactive materials by Nuclear Division facilities were provided recently for members of the Tennessee Public Service Commission. Shown on their arrival at the Toll Enrichment Facility are, from left, Ken Sommerfeld, ORGDP manager; Ann Brooks, TPSC staff; Commissioner Keith Bissell; Tom Davis, hazardous materials specialist; Commissioner Jane Eskind; William Pryor, DOE-ORO; H. Dave Whitehead Jr, ORGDP Operations Division; J. O. Dodson, ORGDP Operations; and Larry Blalock, head of DOE-ORO Transportation Branch, who arranged the visit.

Counter-terrorist training held

The Guard Departments at all four Nuclear Division installations recently conducted counter-terrorist training exercises using the Multiple Integrated Laser Engagement System known as "MILES."

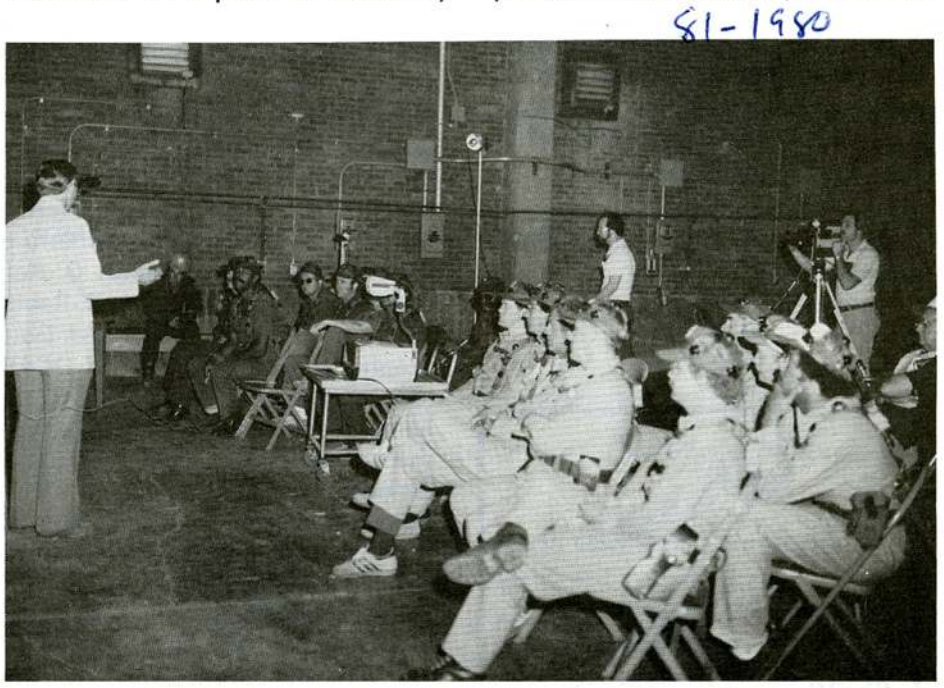
The annual exercises are designed to help security personnel: (1) develop an appreciation for possible tactical problems, (2) practice basic self-preservation through the use of good tactical movements, including scouting techniques, and cover and concealment, (3) improve weapons fire control with emphasis on target selection and accuracy, (4) practice effective communications in a tactical situation, and (5) develop teamwork concepts.

MILES has enabled realistic and job-oriented training to be safely conducted in a plant or laboratory setting under both daylight and nighttime conditions. This system consists of eye-safe laser transmitters which are attached to the barrels of M-16 rifles and sensor harnesses that are worn on the chests, backs and heads of participants.

During the exercise trainees were divided into two groups, one composed of security inspectors and the other representing intruders. Using blank ammunition in the MILES equipment, a rifle can be fired at an opponent and, if the person who shoots is a good marksman, the opponent's sensor harness will set off an audible alarm when struck by the laser beam "bullet," indicating that he has been hit.

Some of the exercises this year were video taped. They were later reviewed and critiqued by participants and other Security Personnel.

81-1980



PRE-TRAINING BRIEFING — Security inspectors from ORNL and ORGDP participated together in the MILES exercises that were held at the old K-25 Powerhouse Complex. Here, W. T. (Bill) DeRossett, head of ORGDP's Plant Protection Department, reviews basic safety rules and explains the exercises which they are to carry out.

Warren M. Anderson, Roger F. Hibbs, Norman L. Beeler, Robert J. Hart, Robert G. Keil and Clyde C. Hopkins

Kenneth W. Sommerfeld, Warren M. Anderson, J. L. Davis, Doug Stephens, Roger F. Hibbs, Mike Walls, Robert J. Hart and I. C. Williams

Attitudes, safe practices

(Continued from page 1)

The National Safety Council's highest award, the Award of Honor, was earned by all four of the Nuclear Division installations.

"Interestingly enough," Anderson added, "The Nuclear Division has earned the only silver award given by the Corporation, and three of the six bronze ones."

Hibbs also pointed out that 1980 was the best year for away-from-the-job accidents. "I like to think some of our safe working habits are taken home with us. Regardless of where you are injured, it hurts just as much, and you are just as non-productive even when you are injured off the job."

Only 214 off-the-job disabling injuries resulted in lost workdays during 1980.

ORNL passed a year on May 10 of this year without a lost workday case, and on June 29, achieved an all-time record, as the chain of no-accident days still continues.

The Paducah Plant passed the one-year mark on July 29, 1981, with approximately 3.4 million employee hours without a lost workday case.

Representing bargaining units at the safety honors luncheon were Norman L. Beeler, vice president of the Atomic Trades and Labor Council; W. Danny Bucy, member of Paducah's company-union safety advisory committee representing the Oil, Chemical and Atomic Workers; John E. Davidson, president of the International Guards Union of America (Y-12); J. O. Dobson, president of the United Plant Guard Workers of America (Paducah); Robert G. Keil, president of ATLC; Charlie E. Robinson, vice president of ATLC; J. Doug Stephens, vice president of OCAW (ORGDP); Mike E. Walls and I. C. Williams, president and vice president of the United Plant Guard Workers of America (ORGDP); and J. L. Davis, Company/Union safety committee representative, ORGDP Maintenance Division.

The various unions represented were cited by Company officials and Hart as being contributors to the attitude of safety that prevails in the installations. "Without your total support, we could never achieve these objectives," Hibbs told the labor representatives.

"Quality assurance means appropriate action to guarantee satisfaction." (Submitted by George K. Smelser, Y-12.)

Division's IR-100 awards

(Continued from page 3)

radiation is converged by a concave mirror and dispersed into its spectrum by a plane transmission grating placed in the converging beam. The extreme ultraviolet monochromator disperses the beam by a thin film of metal which acts as a transmission grating. Gratings are used to disperse radiant energy by the differences of the various wavelengths.

The extreme ultraviolet monochromator is a compact, lightweight and relatively inexpensive device. Conventional monochromators often are troubled by large optical aberrations and complicated geometry. The extreme ultraviolet monochromator is much simplier and easier to use.

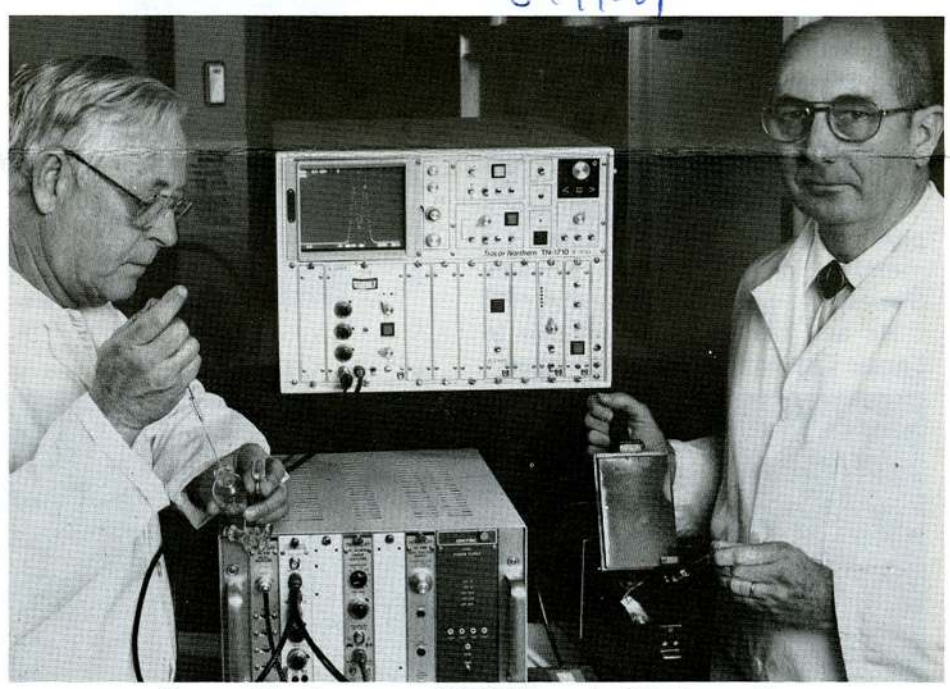
PERALS Spectrometer

The PERALS spectrometer, a highly sensitive system for identification and analysis of alpha-emitting radionuclides, has a wide range of potential uses in environmental monitoring, process control, and nuclear and medical research. It has been developed by William J. McDowell, group leader; and Gerry N. Case, technologist; of the separations research staff of the Chemical Technology Division.

Spectrometers are used to measure and interpret the spectra resulting from emission of radiant energy by various substances. PERALS is an acronym for "Photon-Electron Rejecting Alpha Liquid Scintillation."

The PERALS system is unique in combining solvent extraction, liquid scintillation or detection, and electronic-pulse processing and timing. Solvent extraction is used to both separate and purify the radionuclide and to incorporate it in a liquid scintillator. Light pulses produced by radioactive decay in the scintillator are detected by a photomultiplier tube. Although all types of radiation — alpha, beta and gamma — are detected, the beta and gamma pulses are rejected by electronic pulse-timing circuitry so that alpha pulses alone are measured, and they are measured with a 100 percent counting efficiency — at least 50 percent higher than any other existing system.

The PERALS spectrometer provides precise and accurate analysis of radionuclides under conditions that would produce marginal results in other systems. Although a laboratory version of the detector has been in use at ORNL for many years, recent advances in pulse-shape discriminator and detector design have resulted in a new and more practical instrument for wider application.



Gerry N. Case and William J. McDowell Work with PERALS Spectrometer

UNION CARBIDE

UNION CARBIDE CORPORATION
NUCLEAR DIVISION
P.O. BOX Y, OAK RIDGE, TENNESSEE 37830

BULK RATE
U.S. Postage
P A I D
Permit #70
Union Carbide
Corporation

ADDRESS CORRECTION REQUESTED